

THE FIRST SHORE FLY OF THE GENUS *GLENANTHE* HALIDAY
FROM THE AUSTRALASIAN REGION (DIPTERA: EPHYDRIDAE)

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Abstract. — The first species of *Glenanthe* from the Australasian Region is described (*G. ismayi* type locality: Papua New Guinea. Central Province: Lea Lea). The genus is diagnosed, including characterization of the male terminalia.

Key Words: *Glenanthe*, Australasian Region

The shore-fly genus *Glenanthe* Haliday presently includes only seven species on a world basis, and nearly all of these are from temperate climates of the Northern Hemisphere (Wirth 1965, 1968, Cogan 1984). Many more are known, however, especially in the Western Hemisphere, and a revision of these species is now being prepared for publication (Mathis, in preparation). No described species has been reported from the Oriental or Australasian regions, although previously I noted that specimens of a species of *Glenanthe* from Australia and Papua New Guinea were known (Mathis 1989). The purpose of this paper is to formally describe this species for inclusion of its name in a forthcoming world catalog of the shore flies (Mathis and Zatwarnicki, in preparation) and to present a revised generic diagnosis, including characters of the male terminalia.

Among the described species of *Glenanthe*, only *G. litorea* Cresson is reported to occur in the New World tropics (Bahamas, El Salvador, and Panama) as well as North America (Wirth 1965, 1968). Description of the new species from Papua New Guinea and Australia thus establishes that the genus includes species that occur exclusively in the tropics. Other tropical species will be de-

scribed in the forthcoming revision of New-World species.

The methods and terminology used in this paper follows Mathis (1986). Two venational ratios are used commonly in the descriptions and are defined here for the convenience of the user (ratios are averages of three specimens).

1. Costal vein ratio: the straight line distance between the apices of R_{2+3} and R_{4+5} /distance between the apices of R_1 and R_{2+3} .

2. M vein ratio: the straight line distance along M between crossveins (r-m and dm-cu)/distance apicad of crossvein dm-cu.

Specimens of the new species will be deposited in the Australian Museum, Sydney (AM); Australian National Insect Collection, Canberra (ANIC); and National Museum of Natural History, Smithsonian Institution, Washington, D.C. (USNM).

Genus *Glenanthe* Haliday

Glenanthe Haliday, 1839: 404 (as a subgenus of *Hydrellia* Robineau-Desvoidy). Type species: *Glenanthe ripicola* Haliday, by monotypy.

Description. — Minute to moderately small shore flies, length 0.80 to 2.00 mm.

Head: Wider than high; frons densely mi-

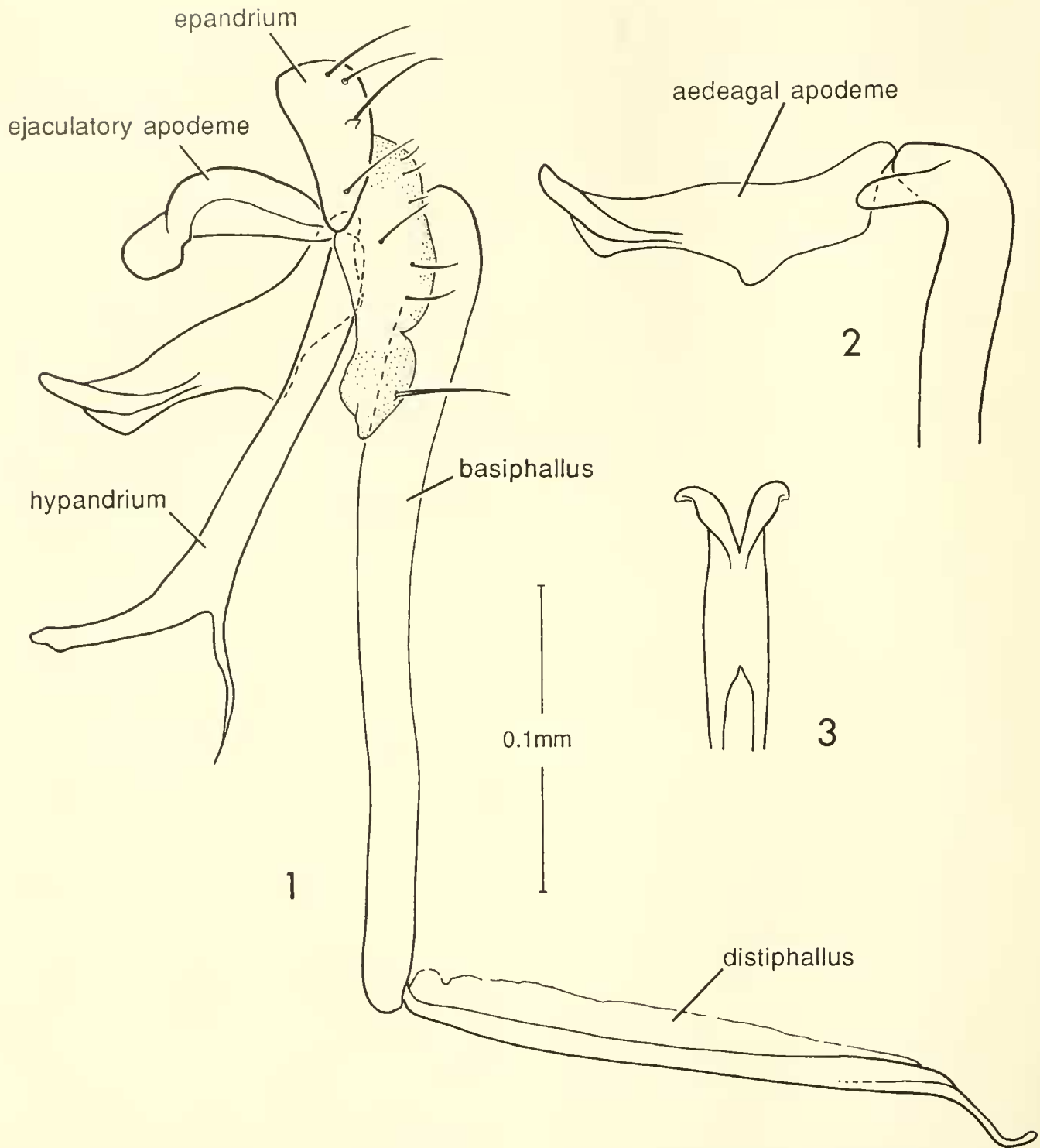
crotomentose, with mesofrons undifferentiated; ocellar seta lacking, only setulae present; intrafrontal setae and setulae inserted front of anterior ocellus; pseudopost-ocellar setae usually about $\frac{1}{3}$ length of ocellar setae; 1 reclinate fronto-orbital and 2 proclinate setae present; both inner and outer vertical setae present; ocelli arranged to form equilateral triangle. Antennae generally within shallow facial grooves; arista slightly longer than first 3 antennal segments, bearing numerous short hairs above and below, appearing brush-like; pedicel bearing short proclinate dorsal seta. Eye pyriform (the principal distinguishing character for the genus), densely setulose. Face with dorsal half between antennal grooves carinate, but not with tuberculate prominence below level of antennal grooves, with anterior margin in profile more or less vertical and flat; oral margin from anterior view only slightly wider than narrowest distance between eyes, ventral margin shallowly emarginate; facial setae in 2 vertical series, with median row larger and mesocline, and with lateral row laterocline and inserted next to parafacial; gena short, at most $\frac{1}{4}$ eye height; labella narrow, shorter than mediproboscis; palpus pale, mostly yellowish.

Thorax: Chaetotaxy moderately well developed, arranged in setal tracks as follows: acrostichal setulae in 2 to several rows, variable depending on species; prescutellar acrostichal setae usually well developed, inserted wide apart, distance more than between either seta and posterior dorsocentral seta, length subequal to that of posterior dorsocentral seta; dorsocentral track terminated posteriorly with larger seta, otherwise lacking large setae; intra-alar setulae irregularly seriated; 1 postpronotal seta; presutural seta reduced or lacking; 1 postalar seta; 2 scutellar setae and with sparse, scattered setulae on scutellar disc; 2 notopleural setae, insertion of posterior one elevated above anterior one; 2 anepisternal setae along posterior margin and with sev-

eral setulae along dorsal and posterior margins; katepisternal seta well developed, conspicuous; katepisternum also bearing 3 to 6 smaller setae, sometimes with setae in a vertical row anterior of larger seta. Wing: membrane very lightly milky white to light tan; veins behind costa dark, yellowish brown to brown; vein R_{2+3} extended well beyond level of crossvein dm-cu, 3rd costal section at least 3 times longer than 2nd section; alular marginal setulae short, length less than $\frac{1}{2}$ alular height. Legs: usually lacking distinctive setae or ornamentation.

Abdomen: Fifth tergum of male visible dorsally, as long as combined length of 3rd and 4th terga; 5th sternum U-shaped, with arms elongate, forming pocket into which the long aedeagus and surstyli lie. Male terminalia as follows: epandrium short in lateral view, not extended beyond posterior margin of cerci, notched posterodorsally; surstylus usually distinct from epandrium, much longer than wide, sparsely setulose, with setae long in some species and weakly developed in others; aedeagus long and very narrow; basiphallus tubular; distiphallus a flap or more complicated process that folds back on the basiphallus; gonites apparently vestigial or lacking; aedeagal apodeme more or less triangular in lateral view; hypandrium well developed, a pocket into which the rest of the genitalia are folded, variously shaped.

Discussion.—*Glenanthe* is a genus of the tribe Lipochaetini Townsend and thus far is the only known representative of this tribe from the Australasian Region. Indeed, aside from *Homalometopus* Becker (Mathis 1984), *Glenanthe* is the only other genus-group taxon of Lipochaetini known from the Old World. *Glenanthe* is distinguished from all other members of the tribe and its monophyly is established by the unusual shape of the eye, which is pyriform or like an upside down pear and is unique among shore flies. The eye is also moderately to densely setulose. Another unusual character is the brush-like arista, with numerous short hairs above



Figs. 1-3. *Glenanthe ismayi*. 1, Male terminalia, lateral view. 2, Aedeagal apodeme and base of basiphallus, lateral view. 3, Base of basiphallus, posterior view.

and below. The latter is common to taxa of Lipochaetini, and this character and the vestigial or absent gonites establish the monophyly of the tribe.

Glenanthe ismayi Mathis,
NEW SPECIES
Figs. 1-3

Description.—Minute to small shore flies, length 0.80 to 1.10 mm; generally grayish

brown, lightly to moderately invested with microtomentum, appearing dull.

Head: Frons grayish brown to grayish tan; mesofrons with 3-4 pairs of weakly developed setulae (including ocellar setulae); pseudopostocellar setae lacking; 1 large reclinate fronto-orbital seta and 2 proclinate setae, the latter about $\frac{1}{2}$ length of reclinate seta and inserted anterolaterad of this seta. Antenna mostly yellowish orange; 1st fla-

gellomere with some brown coloration dorsobasally near insertion of arista. Face whitish gray; antennal grooves moderately well developed; 2 series of facial setulae, with inner series numbering 3, upper 2 inclinate, posterior seta ventroinclinate; outer series numbering 3–4, oriented outward and slightly upward; no genal seta. Palpus yellowish brown to brown.

Thorax: Mesonotum faintly golden tan to brown; acrostichal setulae in 2 rows; prescutellar pair of acrostichal setae not well developed; only posteriormost, dorsocentral seta well developed. Pleural areas brownish gray to gray; anepisternal setae limited to 2–3 along posterior margin; 1 large, slightly upcurved, katepisternal seta. Legs yellow, generally lacking distinguishing setae; femora with apical $\frac{1}{2}$ with faint brown apically; tarsi yellowish brown to brown. Wing lightly and uniformly infusate, vein brown; costal vein ratio averaging 0.25; M vein ratio averaging 0.45.

Abdomen: Tergum blackish brown, with light gray investment of microtomentum. Male terminalia (Figs. 1–3) as follows: generally weakly sclerotized; epandrium in lateral view narrow, gradually tapered ventrally; surstylus much reduced, short, not too much longer than height of epandrium, mostly membranous, with sclerotized portion limited to ventral apex, almost as an extension of the cerci; cerci likewise weakly sclerotized, with only posterior margin sclerotized, otherwise membranous; aedeagus (Fig. 1) with basiphallus long, narrow, parallel sided, base of basiphallus bifurcate (Fig. 3); distiphallus also long (Fig. 1), over $\frac{2}{3}$ length of basiphallus, with posterior surface (unfolded) membranous, anterior portion sclerotized, apex recurved; aedeagal apodeme roughly narrowly triangular in lateral view (Figs. 1, 2); hypandrium narrowly Y shaped in posterior view, with thin, anteroventral extension that attaches to 5th sternum, which is deeply and narrowly U shaped.

Type material.—The holotype male is la-

beled "PAPUA NEW GUINEA Central Prov. LeaLea 6 Oct 1985, J.W. Ismay (saltpan margin)." The allotype female and 22 paratypes (6 ♂, 16 ♀; USNM) bear the same label data as the holotype. The holotype is double mounted (minuten in a block of plastic), is in excellent condition, and is deposited in the USNM. Other paratypes are as follows: AUSTRALIA. Queensland: Cairns, 19–25 Apr 1957, W. W. Wirth (5 ♂, 10 ♀; AM, ANIC, USNM).

Distribution.—Australasian: Australia (QLD), Papua New Guinea.

Etymology.—The specific epithet, *ismayi*, is a genitive patronym to recognize the efforts of Dr. John W. Ismay, who collected hundreds of specimens of shore flies while he was stationed in Papua New Guinea.

Remarks.—This species is easily distinguished from congeners by the yellowish orange antennae; lack of well-developed pseudopostocellar setae; whitish gray face; acrostichal setulae arranged in only two rows; prescutellar pair of acrostichal setulae indistinct or lacking; and shape of the male terminalia, especially the lack of well-developed surstyli, very long distiphallus, and shape of the hypandrium (see description and figures).

Elsewhere in the Old World, *Glenanthe* is represented by three species, all from the Palearctic Region, as listed in Cogan (1984) with the addition of the following species that was omitted from the catalog:

bimaculata Hendel. Palearctic: Mongolia.
G. bimaculata Hendel, 1934: 16
[Mongolia. Hutjertu-gol.]

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